SEQUENCE LISTING

<110> Birkett, Ashley J.

<120> IMMUNOGENIC HBc CHIMER PARTICLES HAVING ENHANCED STABILITY

<130> 4564/81175 ICC-102.2

<140> NOT YET ASSIGNED
<141> 2001-08-15

<150> 60/226,867
<151> 2000-08-22

<150> 60/225,843
<151> 2000-08-16

<160> 313

<170> PatentIn Ver. 2.1

<210> 1
<211> 16
<212> PRT
<213> Plasmodium falciparum

<400> 1
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
1 5 10 15

<210> 2
<211> 20
<212> PRT
<213> Plasmodium falciparum

<400> 2
Glu Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro
1 5 10 15

Ala Ser Val Thr
20

<210> 3
<211> 15
<212> PRT
<213> Streptococcus pneumoniae

<400> 3
Lys Leu Glu Glu Leu Ser Asp Lys Ile Asp Glu Leu Asp Ala Glu
1 5 10 15

<210> 4
<211> 35
<212> PRT
<213> Streptococcus pneumoniae

<400> 4
Gln Lys Lys Tyr Asp Glu Asp Gln Lys Lys Thr Glu Glu Lys Ala Ala
1 5 10 15

Leu Glu Lys Ala Ala Ser Glu Glu Met Asp Lys Ala Val Ala Ala Val
20 25 30

Gln Gln Ala
35

<210> 5
<211> 27
<212> PRT
<213> Cryptosporidium parvum

<400> 5
Gln Asp Lys Pro Ala Asp Ala Pro Ala Ala Glu Ala Pro Ala Ala Glu
1 5 10 15

Pro Ala Ala Gln Gln Asp Lys Pro Ala Asp Ala
20 25

<210> 6
<211> 17
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 6
Arg Lys Arg Ile His Ile Gly Pro Gly Arg Ala Phe Tyr Ile Thr Lys
1 5 10 15

Asn

<210> 7
<211> 31
<212> PRT
<213> Foot-and-mouth disease virus

<400> 7
Tyr Asn Gly Glu Cys Arg Tyr Asn Arg Asn Ala Val Pro Asn Leu Arg
1 5 10 15

Gly Asp Leu Gln Val Leu Ala Gln Lys Val Ala Arg Thr Leu Pro
20 25 30

<210> 8
<211> 10
<212> PRT
<213> Influenza A virus

<400> 8
Tyr Arg Asn Leu Leu Trp Leu Thr Glu Lys
1 5 10

<210> 9
<211> 23
<212> PRT
<213> Influenza A virus

<400> 9
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Cys
1 5 10 15

Arg Cys Asn Gly Ser Ser Asp
20

<210> 10
<211> 23
<212> PRT
<213> Influenza A virus

<400> 10
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Cys
1 5 10 15

Arg Cys Asn Asp Ser Ser Asp
20

<210> 11
<211> 142
<212> PRT
<213> Yersinia pestis

<400> 11
Asp Ile Leu Lys Val Ile Val Asp Ser Met Asn His His Gly Asp Ala
1 5 10 15

Arg Ser Lys Leu Arg Glu Glu Leu Ala Glu Leu Thr Ala Glu Leu Lys
20 25 30

Ile Tyr Ser Val Ile Gln Ala Glu Ile Asn Lys His Leu Ser Ser Ser
35 40 45

Gly Thr Ile Asn Ile His Asp Lys Ser Ile Asn Leu Met Asp Lys Asn
50 55 60

Leu Tyr Gly Tyr Thr Asp Glu Glu Ile Phe Lys Ala Ser Ala Glu Tyr
65 70 75 80

Lys Ile Leu Glu Lys Met Pro Gln Thr Thr Ile Gln Val Asp Gly Ser
85 90 95

Glu Lys Lys Ile Val Ser Ile Lys Asp Phe Leu Gly Ser Glu Asn Lys
100 105 110

Arg Thr Gly Ala Leu Gly Asn Leu Lys Asn Ser Tyr Ser Tyr Asn Lys
115 120 125

Asp Asn Asn Glu Leu Ser His Phe Ala Thr Thr Cys Ser Asp
130 135 140

<210> 12
<211> 19
<212> PRT
<213> Haemophilus influenzae

<400> 12
Cys Ser Ser Ser Asn Asn Asp Ala Ala Gly Asn Gly Ala Ala Gln Phe
1 5 10 15

Gly Gly Tyr

<210> 13
<211> 11
<212> PRT
<213> Haemophilus influenzae

<400> 13
Asn Lys Leu Gly Thr Val Ser Tyr Gly Glu Glu
1 5 10

<210> 14
<211> 16
<212> PRT
<213> Haemophilus influenzae

<400> 14
Asn Asp Glu Ala Ala Tyr Ser Lys Asn Arg Arg Ala Val Leu Ala Tyr
1 5 10 15

<210> 15
<211> 28
<212> PRT
<213> Moraxella catarrhalis

<400> 15
Leu Asp Ile Glu Lys Asp Lys Lys Lys Arg Thr Asp Glu Gln Leu Gln
1 5 10 15

Ala Glu Leu Asp Asp Lys Tyr Ala Gly Lys Gly Tyr
20 25

<210> 16
<211> 28
<212> PRT
<213> Moraxella catarrhalis

<400> 16
Leu Asp Ile Glu Lys Asn Lys Lys Lys Arg Thr Glu Ala Glu Leu Gln
1 5 10 15

Ala Glu Leu Asp Asp Lys Tyr Ala Gly Lys Gly Tyr
20 25

<210> 17
<211> 27
<212> PRT
<213> Moraxella catarrhalis

<400> 17
Ile Asp Ile Glu Lys Lys Gly Lys Ile Arg Thr Glu Ala Leu Leu Ala
1 5 10 15

Glu Leu Asn Lys Asp Tyr Pro Gly Gln Gly Tyr
20 25

<210> 18
<211> 25
<212> PRT
<213> Porphyromonas gingivalis

<400> 18
Gly Val Ser Pro Lys Val Cys Lys Asp Val Thr Val Glu Gly Ser Asn
1 5 10 15

Glu Phe Ala Pro Val Gln Asn Leu Thr
20 25

<210> 19
<211> 20
<212> PRT
<213> Porphyromonas gingivalis

<400> 19
Arg Ile Gln Ser Thr Trp Arg Gln Lys Thr Val Asp Leu Pro Ala Gly
1 5 10 15

Thr Lys Tyr Val
20

<210> 20
<211> 21
<212> PRT
<213> Trypanosoma cruzi

<400> 20
Lys Ala Ala Ile Ala Pro Ala Lys Ala Ala Ala Ala Pro Ala Lys Ala
1 5 10 15

Ala Thr Ala Pro Ala
20

<210> 21
<211> 24
<212> PRT
<213> Plasmodium falciparum

<400> 21
Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro
1 5 10 15

Asn Ala Asn Pro Asn Val Asp Pro
20

<210> 22
<211> 20
<212> PRT
<213> Plasmodium falciparum

<400> 22
Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro
1 5 10 15

Asn Ala Asn Pro
20

<210> 23
<211> 20
<212> PRT
<213> Plasmodium falciparum

<400> 23
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val Asp Pro
1 5 10 15

Asn Ala Asn Pro
20

<210> 24
<211> 28
<212> PRT
<213> Plasmodium falciparum

<400> 24
Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro
1 5 10 15

Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro
20 25

<210> 25
<211> 20
<212> PRT
<213> Plasmodium falciparum

<400> 25
Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala
1 5 10 15

Asn Pro Asn Val
20

<210> 26
<211> 22
<212> PRT
<213> Plasmodium falciparum

<400> 26
Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala
1 5 10 15

Asn Pro Asn Val Asp Pro
20

<210> 27
<211> 24
<212> PRT
<213> Plasmodium falciparum

<400> 27
Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala
1 5 10 15

Asn Pro Asn Val Asp Pro Asn Ala
20

<210> 28
<211> 18
<212> PRT
<213> Plasmodium falciparum

<400> 28
Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
1 5 10 15

Asn Val

<210> 29
<211> 20
<212> PRT
<213> Plasmodium falciparum

<400> 29
Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
1 5 10 15

Asn Val Asp Pro
20

<210> 30
<211> 22
<212> PRT
<213> Plasmodium falciparum

<400> 30
Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
1 5 10 15

Asn Val Asp Pro Asn Ala
20

<210> 31
<211> 16
<212> PRT
<213> Plasmodium falciparum

<400> 31
Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val
1 5 10 15

<210> 32
<211> 18
<212> PRT
<213> Plasmodium falciparum

<400> 32
Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val
1 5 10 15

Asp Pro

<210> 33
<211> 20
<212> PRT
<213> Plasmodium falciparum

<400> 33
Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val
1 5 10 15

Asp Pro Asn Ala
20

<210> 34
<211> 19
<212> PRT
<213> Plasmodium vivax

<400> 34
Gly Asp Arg Ala Asp Gly Gln Pro Ala Gly Asp Arg Ala Asp Gly Gln
1 5 10 15

Pro Ala Gly

<210> 35
<211> 18
<212> PRT
<213> Plasmodium vivax

<400> 35
Arg Ala Asp Asp Arg Ala Ala Gly Gln Pro Ala Gly Asp Gly Gln Pro
1 5 10 15

Ala Gly

<210> 36
<211> 18
<212> PRT
<213> Plasmodium vivax

<400> 36
Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Gly Asp Gln
1 5 10 15

Pro Gly

<210> 37
<211> 18
<212> PRT
<213> Plasmodium vivax

<400> 37
Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala Asp Asp Gln
1 5 10 15

Pro Gly

<210> 38
<211> 18
<212> PRT
<213> Plasmodium vivax

<400> 38
Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Asp Asn Gln
1 5 10 15

Pro Gly

<210> 39
<211> 18
<212> PRT
<213> Plasmodium vivax

<400> 39
Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala Asp Asp Gln
1 5 10 15

Pro Gly

<210> 40
<211> 22
<212> PRT
<213> Plasmodium vivax

<400> 40
Ala Pro Gly Ala Asn Gln Glu Gly Gly Ala Ala Ala Pro Gly Ala Asn
1 5 10 15

Gln Glu Gly Gly Ala Ala
20

<210> 41
<211> 16
<212> PRT
<213> Plasmodium berghei

<400> 41
Asp Pro Pro Pro Pro Asn Pro Asn Asp Pro Pro Pro Pro Asn Pro Asn
1 5 10 15

<210> 42
<211> 24
<212> PRT
<213> Plasmodium yoelii

<400> 42
Gln Gly Pro Gly Ala Pro Gln Gly Pro Gly Ala Pro Gln Gly Pro Gly
1 5 10 15

Ala Pro Gln Gly Pro Gly Ala Pro
20

<210> 43
<211> 15
<212> PRT
<213> Streptococcus sobrinus

<400> 43
Lys Pro Arg Pro Ile Tyr Glu Ala Lys Leu Ala Gln Asn Gln Lys
1 5 10 15

<210> 44
<211> 16
<212> PRT
<213> Streptococcus sobrinus

<400> 44
Ala Lys Ala Asp Tyr Glu Ala Lys Leu Ala Gln Tyr Glu Lys Asp Leu
1 5 10 15

<210> 45
<211> 9
<212> PRT
<213> Shigella flexneri

<400> 45
Lys Asp Arg Thr Leu Ile Glu Gln Lys
1 5

<210> 46
<211> 15
<212> PRT
<213> respiratory syncytial virus

<400> 46
Cys Ser Ile Cys Ser Asn Asn Pro Thr Cys Trp Ala Ile Cys Lys
1 5 10 15

<210> 47
<211> 25
<212> PRT
<213> Entamoeba histolytica

<400> 47
Val Glu Cys Ala Ser Thr Val Cys Gln Asn Asp Asn Ser Cys Pro Ile
1 5 10 15

Ile Ala Asp Val Glu Lys Cys Asn Gln
20 25

<210> 48
<211> 34
<212> PRT
<213> Schistosoma japonicum

<400> 48
Asp Leu Gln Ser Glu Ile Ser Leu Ser Leu Glu Asn Gly Glu Leu Ile
1 5 10 15

Arg Arg Ala Lys Ser Ala Glu Ser Leu Ala Ser Glu Leu Gln Arg Arg
20 25 30

Val Asp

<210> 49
<211> 34
<212> PRT
<213> Schistosoma mansoni

<400> 49
Asp Leu Gln Ser Glu Ile Ser Leu Ser Leu Glu Asn Ser Glu Leu Ile
1 5 10 15

Arg Arg Ala Lys Ala Ala Glu Ser Leu Ala Ser Asp Leu Gln Arg Arg
20 25 30

Val Asp

<210> 50
<211> 16
<212> PRT
<213> Human immunodeficiency virus

<400> 50
Gly Pro Lys Glu Pro Phe Arg Asp Tyr Val Asp Arg Phe Tyr Lys Cys
1 5 10 15

<210> 51
<211> 17
<212> PRT
<213> Corynebacterium diphtheriae

<400> 51
Phe Gln Val Val His Asn Ser Tyr Asn Arg Pro Ala Tyr Ser Pro Gly
1 5 10 15

Cys

<210> 52
<211> 25
<212> PRT
<213> Borrelia burgdorferi

<400> 52
Val Glu Ile Lys Glu Gly Thr Val Thr Leu Lys Arg Glu Ile Asp Lys
1 5 10 15

Asn Gly Lys Val Thr Val Ser Leu Cys
20 25

<210> 53
<211> 19
<212> PRT
<213> Borrelia burgdorferi

<400> 53
Thr Leu Ser Lys Asn Ile Ser Lys Ser Gly Glu Val Ser Val Glu Leu
1 5 10 15

Asn Asp Cys

<210> 54
<211> 11
<212> PRT
<213> Influenza A virus

<400> 54
Ser Ser Val Ser Ser Phe Glu Arg Phe Glu Cys
1 5 10

<210> 55
<211> 21
<212> PRT
<213> Trypanosoma cruzi

<400> 55
Ser His Asn Phe Thr Leu Val Ala Ser Val Ile Ile Glu Glu Ala Pro
1 5 10 15

Ser Gly Asn Thr Cys
20

<210> 56
<211> 16
<212> PRT
<213> Plasmodium falciparum

<400> 56
Ser Val Gln Ile Pro Lys Val Pro Tyr Pro Asn Gly Ile Val Tyr Cys
1 5 10 15

<210> 57
<211> 16
<212> PRT
<213> Plasmodium falciparum

<400> 57
Asp Phe Asn His Tyr Tyr Thr Leu Lys Thr Gly Leu Glu Ala Asp Cys
1 5 10 15

<210> 58
<211> 18
<212> PRT
<213> Plasmodium falciparum

<400> 58
Pro Ser Asp Lys His Ile Glu Gln Tyr Lys Lys Ile Lys Asn Ser Ile
1 5 10 15

Ser Cys

<210> 59
<211> 20
<212> PRT
<213> Plasmodium falciparum

<400> 59
Glu Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro
1 5 10 15

Cys Ser Val Thr
20

<210> 60
<211> 19
<212> PRT
<213> Plasmodium vivax

<400> 60
Tyr Leu Asp Lys Val Arg Ala Thr Val Gly Thr Glu Trp Thr Pro Cys
1 5 10 15

Ser Val Thr

<210> 61
<211> 16
<212> PRT
<213> Streptococcus sobrinus

<400> 61
Lys Pro Arg Pro Ile Tyr Glu Ala Lys Leu Ala Gln Asn Gln Lys Cys
1 5 10 15

<210> 62
<211> 17
<212> PRT
<213> Streptococcus sobrinus

<400> 62
Ala Lys Ala Asp Tyr Glu Ala Lys Leu Ala Gln Tyr Glu Lys Asp Leu
1 5 10 15

Cys

<210> 63
<211> 16
<212> PRT
<213> Lymphocytic choriomeningitis virus

<400> 63
Arg Pro Gln Ala Ser Gly Val Tyr Met Gly Asn Leu Thr Ala Gln Cys
1 5 10 15

<210> 64
<211> 16
<212> PRT
<213> Clostridium tetani

<400> 64
Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu Cys
1 5 10 15

<210> 65
<211> 18
<212> DNA
<213> plasmid pKK223

<400> 65
ggtgcatgca aggagatg 18

<210> 66
<211> 55
<212> DNA
<213> plasmid pKK223

<400> 66
gcgaagcttc ggatcccatg gttttttcct ccttatgtga aattgttatc cgctc 55

<210> 67
<211> 24
<212> DNA
<213> Hepatitis B virus

<400> 67
ttgggccatg gacatcgacc ctta 24

<210> 68
<211> 29
<212> DNA
<213> Hepatitis B virus

<400> 68
gcggaattcc ttccaaatta acacccacc 29

<210> 69
<211> 38
<212> DNA
<213> Hepatitis B virus

<400> 69
cgcgaattca aaaagagctc gatccagcgt ctagagac 38

<210> 70
<211> 31
<212> DNA
<213> Hepatitis B virus

<400> 70
cgcaagctta aacaacagta gtctccggaa g 31

<210> 71
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: human
cytochrome 450

<400> 71
cgagctgtac atttgcgttt tcgtctagct gtttttcttg 40

<210> 72
<211> 31
<212> DNA
<213> Hepatitis B virus

<400> 72
gcggaattcc atcttccaaa ttaacaccca c 31

<210> 73
<211> 39
<212> DNA
<213> Hepatitis B virus

<400> 73
cgcgaattca aaaagagctc ccagcgtcta gagacctag 39

<210> 74
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: human cytochrome P450

<400> 74
caagaaaaac agctagacga aaacgcaaat gtacagctc 39

<210> 75
<211> 42
<212> DNA
<213> Hepatitis B virus

<400> 75
cgcaagctta gagctcttga attccaacaa cagtagtctc cg 42

<210> 76
<211> 28
<212> DNA
<213> Hepatitis B virus

<400> 76
cgcgagctcc cagcgtctag agacctag 28

<210> 77
<211> 17
<212> DNA
<213> plasmid pKK223

<400> 77
gtatcaggct gaaaatc 17

<210> 78
<211> 19
<212> PRT
<213> Plasmodium falciparum

<400> 78
Ile Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn
1 5 10 15

Pro Glu Leu

<210> 79
<211> 57
<212> DNA
<213> Plasmodium falciparum

<400> 79
aattaacgct aatccgaacg ctaatccgaa cgctaatccg aacgctaatc cggagct 57

<210> 80
<211> 49
<212> DNA
<213> Plasmodium falciparum

<400> 80
ccggattagc gttcggatta gcgttcggat tagcgttcgg attagcgtt 49

<210> 81
<211> 31
<212> PRT
<213> Plasmodium falciparum

<400> 81
Ile Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn
1 5 10 15

Pro Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Glu Leu
20 25 30

<210> 82
<211> 93
<212> DNA
<213> Plasmodium falciparum

<400> 82
aattaacgct aatccgaacg ttgacccgaa cgctaatccg aacgctaatc cgaacgctaa 60
tccgaacgtt gacccgaacg ctaatccgga gct 93

<210> 83
<211> 91
<212> DNA
<213> Plasmodium falciparum

<400> 83
ggagctccgg attagcgttc gggtcaacgt tcggattagc gttcggatta gcgttcggat 60
tagcgttcgg gtcaacgttc ggattagcgt t 91

<210> 84
<211> 23
<212> PRT
<213> Plasmodium falciparum

<400> 84
Ile Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn
1 5 10 15

Pro Asn Ala Asn Pro Glu Leu
20

<210> 85
<211> 69
<212> DNA
<213> Plasmodium falciparum

<400> 85
aattaacgcg aatccgaacg tggatccgaa tgccaaccct aacgccaacc caaatgcgaa 60
cccagagct 69

<210> 86
<211> 61
<212> DNA
<213> Plasmodium falciparum

<400> 86
ctgggttcgc atttgggttg gcgttagggt tggcattcgg atccacgttc ggattcgcgt 60
t 61

<210> 87
<211> 23
<212> PRT
<213> Plasmodium falciparum

<400> 87
Ile Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Val Asp
1 5 10 15

Pro Asn Ala Asn Pro Glu Leu
20

<210> 88
<211> 69
<212> DNA
<213> Plasmodium falciparum

<400> 88
aattaacgcg aatccgaatg ccaaccctaa cgccaaccca aacgtggatc cgaatgcgaa 60
cccagagct 69

<210> 89
<211> 61
<212> DNA
<213> Plasmodium falciparum

<400> 89
ctgggttcgc attcggatcc acgtttgggt tggcgttagg gttggcattc ggattcgcgt 60
t 61

<210> 90
<211> 31
<212> PRT
<213> Plasmodium falciparum

<400> 90
Ile Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn
1 5 10 15

Pro Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Glu Leu
20 25 30

<210> 91
<211> 93
<212> DNA
<213> Plasmodium falciparum

<400> 91
aattaacgcg aatccgaacg tggatccaaa tgccaaccct aacgctaatc caaacgccaa 60
cccgaatgtt gaccccaatg ccaatccgga gct 93

<210> 92
<211> 85
<212> DNA
<213> Plasmodium falciparum

<400> 92
ccggattggc attggggtca acattcgggt tggcgtttgg attagcgtta gggttggcat 60
ttggatccac gttcggattc gcgtt 85

<210> 93
<211> 23
<212> PRT
<213> Plasmodium falciparum

<400> 93
Ile Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn
1 5 10 15

Ala Asn Pro Asn Val Glu Leu
20

<210> 94
<211> 69
<212> DNA
<213> Plasmodium falciparum

<400> 94
aattaatccg aacgtggatc caaatgccaa ccctaacgct aatccaaacg ccaacccgaa 60
tgttgagct 69

<210> 95
<211> 61
<212> DNA
<213> Plasmodium falciparum

<400> 95
caacattcgg gttggcgttt ggattagcgt tagggttggc atttggatcc acgttcggat 60
t 61

<210> 96
<211> 25
<212> PRT
<213> Plasmodium falciparum

<400> 96
Ile Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn
1 5 10 15

Ala Asn Pro Asn Val Asp Pro Glu Leu
20 25

<210> 97
<211> 75
<212> DNA
<213> Plasmodium falciparum

<400> 97
aattaatccg aacgtggatc caaatgccaa ccctaacgct aatccaaacg ccaacccgaa 60
tgttgaccct gagct 75

<210> 98
<211> 67
<212> DNA
<213> Plasmodium falciparum

<400> 98
cagggtcaac attcgggttg gcgtttggat tagcgttagg gttggcattt ggatccacgt 60
tcggatt 67

<210> 99
<211> 27
<212> PRT
<213> Plasmodium falciparum

<400> 99
Ile Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn
1 5 10 15

Ala Asn Pro Asn Val Asp Pro Asn Ala Glu Leu
20 25

<210> 100
<211> 81
<212> DNA
<213> Plasmodium falciparum

<400> 100
aattaatccg aacgtggatc caaatgccaa ccctaacgct aatccaaacg ccaacccgaa 60
tgttgaccct aatgctgagc t 81

<210> 101
<211> 73
<212> DNA
<213> Plasmodium falciparum

<400> 101
cagcattagg gtcaacattc gggttggcgt ttggattagc gttagggttg gcatttggat 60
ccacgttcgg att 73

<210> 102
<211> 21
<212> PRT
<213> Plasmodium falciparum

<400> 102
Ile Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn
1 5 10 15

Pro Asn Val Glu Leu
20

<210> 103
<211> 63
<212> DNA
<213> Plasmodium falciparum

<400> 103
aattaacgtg gatccaaatg ccaaccctaa cgctaatcca aacgccaacc cgaatgttga 60
gct 63

<210> 104
<211> 55
<212> DNA
<213> Plasmodium falciparum

<400> 104
caacattcgg gttggcgttt ggattagcgt tagggttggc atttggatcc acgtt 55

<210> 105
<211> 23
<212> PRT
<213> Plasmodium falciparum

<400> 105
Ile Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn
1 5 10 15

Pro Asn Val Asp Pro Glu Leu
20

<210> 106
<211> 69
<212> DNA
<213> Plasmodium falciparum

<400> 106
aattaacgtg gatccaaatg ccaaccctaa cgctaatcca aacgccaacc cgaatgttga 60
ccctgagct 69

<210> 107
<211> 61
<212> DNA
<213> Plasmodium falciparum

<400> 107
cagggtcaac attcgggttg gcgtttggat tagcgttagg gttggcattt ggatccacgt 60
t 61

<210> 108
<211> 25
<212> PRT
<213> Plasmodium falciparum

<400> 108
Ile Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn
1 5 10 15

Pro Asn Val Asp Pro Asn Ala Glu Leu
20 25

<210> 109
<211> 75
<212> DNA
<213> Plasmodium falciparum

<400> 109
aattaacgtg gatccaaatg ccaaccctaa cgctaatcca aacgccaacc cgaatgttga 60
ccctaatgct gagct 75

<210> 110
<211> 67
<212> DNA
<213> Plasmodium falciparum

<400> 110
cagcattagg gtcaacattc gggttggcgt ttggattagc gttagggttg gcatttggat 60
ccacgtt 67

<210> 111
<211> 19
<212> PRT
<213> Plasmodium falciparum

<400> 111
Ile Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn
1 5 10 15

Val Glu Leu

<210> 112
<211> 57
<212> DNA
<213> Plasmodium falciparum

<400> 112
aattgatcca aatgccaacc ctaacgctaa tccaaacgcc aacccgaatg ttgagct 57

<210> 113
<211> 49
<212> DNA
<213> Plasmodium falciparum

<400> 113
caacattcgg gttggcgttt ggattagcgt tagggttggc atttggatc 49

<210> 114
<211> 21
<212> PRT
<213> Plasmodium falciparum

<400> 114
Ile Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn
1 5 10 15

Val Asp Pro Glu Leu
20

<210> 115
<211> 63
<212> DNA
<213> Plasmodium falciparum

<400> 115
aattgatcca aatgccaacc ctaacgctaa tccaaacgcc aacccgaatg ttgaccctga 60
gct 63

<210> 116
<211> 55
<212> DNA
<213> Plasmodium falciparum

<400> 116
cagggtcaac attcgggttg gcgtttggat tagcgttagg gttggcattt ggatc 55

<210> 117
<211> 23
<212> PRT
<213> Plasmodium falciparum

<400> 117
Ile Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn
1 5 10 15

Val Asp Pro Asn Ala Glu Leu
20

<210> 118
<211> 69
<212> DNA
<213> Plasmodium falciparum

<400> 118
aattgatcca aatgccaacc ctaacgctaa tccaaacgcc aacccgaatg ttgaccctaa 60
tgccgagct 69

<210> 119
<211> 61
<212> DNA
<213> Plasmodium falciparum

<400> 119
cggcattagg gtcaacattc gggttggcgt ttggattagc gttagggttg gcatttggat 60
c 61

<210> 120
<211> 21
<212> PRT
<213> Plasmodium falciparum

<400> 120
Ile Glu Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser
1 5 10 15

Pro Cys Ser Val Thr
20

<210> 121
<211> 69
<212> DNA
<213> Plasmodium falciparum

<400> 121
aattgaatat ctgaacaaaa tccagaactc tctgtccacc gaatggtctc cgtgctccgt 60
tacctagta 69

<210> 122
<211> 69
<212> DNA
<213> Plasmodium falciparum

<400> 122
agcttactag gtaacggagc acggagacca ttcggtggac agagagttct ggattttgtt 60
cagatattc 69

<210> 123
<211> 24
<212> PRT
<213> Plasmodium vivax

<400> 123
Ile Pro Ala Gly Asp Arg Ala Asp Gly Gln Pro Ala Gly Asp Arg Ala
1 5 10 15

Ala Gly Gln Pro Ala Gly Glu Leu
20

<210> 124
<211> 72
<212> DNA
<213> Plasmodium vivax

<400> 124
aattccggct ggtgaccgtg cagatggcca gccagcgggt gaccgcgctg caggccagcc 60
ggctggcgag ct 72

<210> 125
<211> 64
<212> DNA
<213> Plasmodium vivax

<400> 125
cgccagccgg ctggcctgca gcgcggtcac ccgctggctg gccatctgca cggtcaccag 60
ccgg 64

<210> 126
<211> 21
<212> PRT
<213> Plasmodium vivax

<400> 126
Ile Asp Arg Ala Ala Gly Gln Pro Ala Gly Asp Arg Ala Asp Gly Gln
1 5 10 15

Pro Ala Gly Glu Leu
20

<210> 127
<211> 63
<212> DNA
<213> Plasmodium vivax

<400> 127
aattgacaga gcagccggac aaccagcagg cgatcgagca gacggacagc ccgcagggga 60
gct 63

<210> 128
<211> 55
<212> DNA
<213> Plasmodium vivax

<400> 128
cccctgcggg ctgtccgtct gctcgatcgc ctgctggttg tccggctgct ctgtc 55

<210> 129
<211> 21
<212> PRT
<213> Plasmodium vivax

<400> 129
Ile Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Gly Asp
1 5 10 15

Gln Pro Gly Glu Leu
20

<210> 130
<211> 63
<212> DNA
<213> Plasmodium vivax

<400> 130
aattgcgaac ggcgccggta atcagccggg ggcaaacggc gcgggtgatc aaccagggga 60
gct 63

<210> 131
<211> 55
<212> DNA
<213> Plasmodium vivax

<400> 131
cccctggttg atcacccgcg ccgtttgccc ccggctgatt accggcgccg ttcgc 55

<210> 132
<211> 21
<212> PRT
<213> Plasmodium vivax

<400> 132
Ile Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala Asp Asp
1 5 10 15

Gln Pro Gly Glu Leu
20

<210> 133
<211> 63
<212> DNA
<213> Plasmodium vivax

<400> 133
aattgcgaac ggcgccgata atcagccggg tgcaaacggg gcggatgacc aaccaggcga 60
gct 63

<210> 134
<211> 55
<212> DNA
<213> Plasmodium vivax

<400> 134
cgcctggttg gtcatccgcc ccgtttgcac ccggctgatt atcggcgccg ttcgc 55

<210> 135
<211> 39
<212> PRT
<213> Plasmodium vivax

<400> 135
Ile Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Gly Asp
1 5 10 15

Gln Pro Gly Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala
20 25 30

Asp Asp Gln Pro Gly Glu Leu
35

<210> 136
<211> 117
<212> DNA
<213> Plasmodium vivax

<400> 136
aattgcgaac ggcgccggta atcagccggg agcaaacggc gcgggggatc aaccaggcgc 60
caatggtgca gacaaccagc ctggggcgaa tggagccgat gaccaacccg gcgagct 117

<210> 137
<211> 109
<212> DNA
<213> Plasmodium vivax

<400> 137
cgccgggttg gtcatcggct ccattcgccc caggctggtt gtctgcacca ttggcgcctg 60
gttgatcccc cgcgccgttt gctcccggct gattaccggc gccgttcgc 109

<210> 138
<211> 25
<212> PRT
<213> Plasmodium vivax

<400> 138
Ile Ala Pro Gly Ala Asn Gln Glu Gly Gly Ala Ala Ala Pro Gly Ala
1 5 10 15

Asn Gln Glu Gly Gly Ala Ala Glu Leu
20 25

<210> 139
<211> 75
<212> DNA
<213> Plasmodium vivax

<400> 139
aattgcgccg ggcgccaacc aggaaggtgg ggctgcagcg ccaggagcca atcaagaagg 60
cggtgcagcg gagct 75

<210> 140
<211> 67
<212> DNA
<213> Plasmodium vivax

<400> 140
ccgctgcacc gccttcttga ttggctcctg gcgctgcagc cccaccttcc tggttggcgc 60
ccggcgc 67

<210> 141
<211> 21
<212> PRT
<213> Plasmodium vivax

<400> 141
Ile Glu Tyr Leu Asp Lys Val Arg Ala Thr Val Gly Thr Glu Trp Thr
1 5 10 15

Pro Cys Ser Val Thr
20

<210> 142
<211> 69
<212> DNA
<213> Plasmodium vivax

<400> 142
aattgaatat ctggataaag tgcgtgcgac cgttggcacg gaatggactc cgtgcagcgt 60
gacctaata 69

<210> 143
<211> 69
<212> DNA
<213> Plasmodium vivax

<400> 143
agcttattag gtcacgctgc acggagtcca ttccgtgcca acggtcgcac gcactttatc 60
cagatattc 69

<210> 144
<211> 10
<212> PRT
<213> Plasmodium falciparum

<400> 144
Thr Val Ser Ala Pro Ser Trp Glu Thr Ser
1 5 10

<210> 145
<211> 42
<212> DNA
<213> Plasmodium falciparum

<400> 145
gccaagctta ctaggtaacg gaggccggag accattcggt gg 42

<210> 146
<211> 44
<212> DNA
<213> Plasmodium vivax

<400> 146
cgcgaattca agcgaacggc gccgataatc agccggcggg tgca 44

<210> 147
<211> 8
<212> PRT
<213> Hepatitis B virus

<400> 147
Cys Val Val Thr Thr Glu Pro Leu
1 5

<210> 148
<211> 37
<212> DNA
<213> Hepatitis B virus

<400> 148
cgcaagctta ctagcaaaca acagtagtct ccggaag 37

<210> 149
<211> 7
<212> PRT
<213> Hepatitis B virus

<400> 149
Pro Leu Thr Ser Leu Ile Pro
1 5

<210> 150
<211> 32
<212> DNA
<213> Hepatitis B virus

<400> 150
cgcaagctta cggaagtgtt gataggatag gg 32

<210> 151
<211> 8
<212> PRT
<213> Hepatitis B virus

<400> 151
Thr Ser Leu Ile Pro Ala Asn Pro
1 5

<210> 152
<211> 34
<212> DNA
<213> Hepatitis B virus

<400> 152
cgcaagctta tgttgatagg ataggggcat ttgg 34

<210> 153
<211> 7
<212> PRT
<213> Hepatitis B virus

<400> 153
Leu Ile Pro Ala Asn Pro Pro
1 5

<210> 154
<211> 31
<212> DNA
<213> Hepatitis B virus

<400> 154
cgcaagctta taggataggg gcatttggtg g 31

<210> 155
<211> 6
<212> PRT
<213> Hepatitis B virus

<400> 155
Ile Pro Ala Asn Pro Pro
1 5

<210> 156
<211> 28
<212> DNA
<213> Hepatitis B virus

<400> 156
gcgaagctta gataggggca tttggtgg 28

<210> 157
<211> 6
<212> PRT
<213> Hepatitis B virus

<400> 157
Pro Ala Asn Pro Pro Arg
1 5

<210> 158
<211> 28
<212> DNA
<213> Hepatitis B virus

<400> 158
cgcaagctta aggggcattt ggtggtct 28

<210> 159
<211> 7
<212> PRT
<213> Hepatitis B virus

<400> 159
Cys Pro Ala Asn Pro Pro Arg
1 5

<210> 160
<211> 7
<212> PRT
<213> Hepatitis B virus

<400> 160
Ala Asn Pro Pro Arg Tyr Ala
1 5

<210> 161
<211> 31
<212> DNA
<213> Hepatitis B virus

<400> 161
gcgaagctta gcaaggggca tttggtggtc t 31

<210> 162
<211> 30
<212> DNA
<213> Hepatitis B virus

<400> 162
gcgaagctta ggcatttggt ggtctatagc 30

<210> 163
<211> 8
<212> PRT
<213> Hepatitis B virus

<400> 163
Cys Ala Asn Pro Pro Arg Tyr Ala
1 5

<210> 164
<211> 32
<212> DNA
<213> Hepatitis B virus

<400> 164
gcgaagctta gcaggcattt ggtggtctat aa 32

<210> 165
<211> 7
<212> PRT
<213> Hepatitis B virus

<400> 165
Asn Pro Pro Arg Tyr Ala Pro
1 5

<210> 166
<211> 31
<212> DNA
<213> Hepatitis B virus

<400> 166
cgcaagctta atttggtggt ctataagctg g 31

<210> 167
<211> 8
<212> PRT
<213> Plasmodium falciparum

<400> 167
Asn Ala Asn Pro Asn Val Asp Pro
1 5

<210> 168
<211> 6
<212> PRT
<213> Homo sapiens

<400> 168
Asn Tyr Lys Lys Pro Lys
1 5

<210> 169
<211> 7
<212> PRT
<213> Hepatitis B virus

<400> 169
Lys Arg Gly Pro Arg Thr His
1 5

<210> 170
<211> 21
<212> PRT
<213> Homo sapiens

<400> 170
Leu His Pro Asp Glu Thr Lys Asn Met Leu Glu Met Ile Phe Thr Pro
1 5 10 15

Arg Asn Ser Asp Arg
20

<210> 171
<211> 5
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 171
Arg Ile Lys Gln Ile
1 5

<210> 172
<211> 11
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 172
Arg Ile Lys Gln Ile Gly Met Pro Gly Gly Lys
1 5 10

<210> 173
<211> 10
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 173
Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
1 5 10

<210> 174
<211> 14
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 174
Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp
1 5 10

<210> 175
<211> 33
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 175
Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His
1 5 10 15

Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile
20 25 30

Leu

<210> 176
<211> 16
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 176
His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg
1 5 10 15

<210> 177
<211> 36
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 177
Tyr Thr His Ile Ile Tyr Ser Leu Ile Glu Gln Ser Gln Asn Gln Gln
1 5 10 15

Glu Lys Asn Glu Gln Glu Leu Leu Ala Leu Asp Lys Trp Ala Ser Leu
20 25 30

Trp Asn Trp Phe
35

<210> 178
<211> 26
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 178
Tyr Thr His Ile Ile Tyr Ser Leu Ile Glu Gln Ser Gln Asn Gln Gln
1 5 10 15

Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu
20 25

<210> 179
<211> 19
<212> PRT
<213> Homo sapiens

<400> 179
Gly Arg Glu Arg Arg Pro Arg Leu Ser Asp Arg Pro Gln Leu Pro Tyr
1 5 10 15

Leu Glu Ala

<210> 180
<211> 20
<212> PRT
<213> Homo sapiens

<400> 180
Arg Glu Gln Arg Arg Phe Ser Val Ser Thr Leu Arg Asn Leu Gly Leu
1 5 10 15

Gly Lys Lys Ser
20

<210> 181
<211> 18
<212> PRT
<213> Plasmodium yoelii

<400> 181
Pro Asn Lys Leu Pro Arg Ser Thr Ala Val Val His Gln Leu Lys Arg
1 5 10 15

Lys His

<210> 182
<211> 11
<212> PRT
<213> Plasmodium yoelii

<400> 182
Thr Ala Val Val His Gln Leu Lys Arg Lys His
1 5 10

<210> 183
<211> 22
<212> PRT
<213> Plasmodium vivax

<400> 183
Pro Ala Gly Asp Arg Ala Asp Gly Gln Pro Ala Gly Asp Arg Ala Ala
1 5 10 15

Ala Gly Gln Pro Ala Gly
20

<210> 184
<211> 12
<212> PRT
<213> Avian leukosis virus

<400> 184
Asn Gln Ser Trp Thr Met Val Ser Pro Ile Asn Val
1 5 10

<210> 185
<211> 16
<212> PRT
<213> Avian leukosis virus

<400> 185
Met Ile Lys Asn Gly Thr Lys Arg Thr Ala Val Thr Phe Gly Ser Val
1 5 10 15

<210> 186
<211> 19
<212> PRT
<213> Foot-and-mouth disease virus

<400> 186
Pro Asn Leu Arg Gly Asp Leu Gln Val Leu Ala Gln Lys Val Ala Arg
1 5 10 15

Thr Leu Pro

<210> 187
<211> 26
<212> PRT
<213> Foot-and-mouth disease virus

<400> 187
Arg Tyr Asn Arg Asn Ala Val Pro Asn Leu Arg Gly Asp Leu Gln Val
1 5 10 15

Leu Ala Gln Lys Val Ala Arg Thr Leu Pro
20 25

<210> 188
<211> 16
<212> PRT
<213> Hepatitis C virus

<400> 188
Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys
1 5 10 15

Leu

<210> 189
<211> 34
<212> PRT
<213> Hepatitis B virus

<400> 189
Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr Pro Ser Pro Arg Arg
1 5 10 15

Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser Gln Ser Arg Glu Ser
20 25 30

Gln Cys

<210> 190
<211> 16
<212> PRT
<213> Hepatitis B virus

<400> 190
Gly Ile Val Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu Val Val Ser
1 5 10 15

<210> 191
<211> 17
<212> PRT
<213> Hepatitis B virus

<400> 191
Gly Ile Val Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu Val Val Ser
1 5 10 15

Cys

<210> 192
<211> 20
<212> PRT
<213> Plasmodium falciparum

<400> 192
Glu Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro
1 5 10 15

Cys Ser Val Thr
20

<210> 193
<211> 9
<212> PRT
<213> Plasmodium vivax

<400> 193
Asp Arg Ala Xaa Gly Gln Pro Ala Gly
1 5

<210> 194
<211> 9
<212> PRT
<213> Plasmodium vivax

<400> 194
Ala Asn Gly Ala Xaa Asx Gln Pro Gly
1 5

<210> 195
<211> 11
<212> PRT
<213> Plasmodium vivax

<400> 195
Ala Pro Gly Ala Asn Gln Glu Gly Gly Ala Ala
1 5 10

<210> 196
<211> 19
<212> PRT
<213> Plasmodium vivax

<400> 196
Tyr Leu Asp Lys Val Arg Ala Thr Val Gly Thr Glu Trp Thr Pro Cys
1 5 10 15

Ser Val Thr

<210> 197
<211> 21
<212> PRT
<213> Plasmodium vivax

<400> 197
Pro Ala Gly Asp Arg Ala Asp Gly Gln Pro Ala Gly Asp Arg Ala Ala
1 5 10 15

Gly Gln Pro Ala Gly
20

<210> 198
<211> 18
<212> PRT
<213> Plasmodium vivax

<400> 198
Asp Arg Ala Ala Gly Gln Pro Ala Gly Asp Arg Ala Asp Gly Gln Pro
1 5 10 15

Ala Gly

<210> 199
<211> 36
<212> PRT
<213> Plasmodium vivax

<400> 199
Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Gly Asp Gln
1 5 10 15

Pro Gly Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala Asp
20 25 30

Asp Gln Pro Gly
35

<210> 200
<211> 18
<212> PRT
<213> Plasmodium vivax

<400> 200
Ala Asn Gly Ala Gly Asn Gln Pro Gly Ala Asn Gly Ala Gly Asp Gln
1 5 10 15

Pro Gly

<210> 201
<211> 19
<212> PRT
<213> Plasmodium vivax

<400> 201
Gln Ala Asn Gly Ala Asp Asn Gln Pro Gly Ala Asn Gly Ala Asp Asp
1 5 10 15

Gln Pro Gly

<210> 202
<211> 22
<212> PRT
<213> Plasmodium vivax

<400> 202
Ala Pro Gly Ala Asn Gln Glu Gly Gly Ala Ala Ala Pro Gly Ala Asn
1 5 10 15

Gln Glu Gly Gly Ala Ala
20

<210> 203
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hepatitis B virus PCR primer with an NcoI restriction site

<400> 203
ttgggccatg gacatcgacc ctta 24

<210> 204
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hepatitis B virus PCR primer with an EcoRI restriction site.

<400> 204
gcggagctct ttttccaaat taattaacac ccac 34

<210> 205
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hepatitis B virus PCR primer with EcoRI and SacI restriction sites and an inserted lysine codon

<400> 205
cgcgagctcg atccagcgtc tagagagacc 30

<210> 206
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hepatitis B virus PCR primer with HindIII restriction site

<400> 206
cgcaagctta aacaacagta gtctccggaa g 31

<210> 207
<211> 14
<212> PRT
<213> Hepatitis B virus

<400> 207
Cys Gln Glu Lys Gln Leu Asp Glu Asn Ala Asn Val Gln Leu
1 5 10

<210> 208
<211> 13
<212> PRT
<213> Hepatitis B virus

<400> 208
Cys Ser Lys Lys Gly Pro Arg Ala Ser Gly Asn Leu Ile
1 5 10

<210> 209
<211> 21
<212> PRT
<213> Hepatitis B virus

<400> 209
Cys Leu Leu Thr Glu His Arg Met Thr Trp Asp Pro Ala Gln Pro Pro
1 5 10 15

Arg Asp Leu Thr Glu
20

<210> 210
<211> 22
<212> PRT
<213> Hepatitis B virus

<400> 210
Cys Val Lys Arg Met Lys Glu Ser Arg Leu Glu Asp Thr Gln Lys His
1 5 10 15

Arg Val Asp Phe Leu Gln
20

<210> 211
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Cytochrome P-450 fragment

<400> 211
Cys Met Gln Leu Arg Ser
1 5

<210> 212
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Cytochrome P-450 fragment

<400> 212
Cys Arg Phe Ser Ile Asn
1 5

<210> 213
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Cytochrome P-450 fragment

<400> 213
Cys Ala Val Pro Arg
1 5

<210> 214
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Cytochrome P-450 fragment

<400> 214
Cys Val Ile Pro Arg Ser
1 5

<210> 215
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Cytochrome P-450 fragment

<400> 215
Cys Phe Ile Pro Val
1 5

<210> 216
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Cytochrome P-450 fragment

<400> 216
Cys Thr Val Ser Gly Ala
1 5

<210> 217
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Cytochrome
P-450 fragment

<400> 217
Cys Thr Leu Ser Gly Glu
1 5

<210> 218
<211> 20
<212> PRT
<213> Hepatitis B virus

<400> 218
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu Val
1 5 10 15

Val Ser Tyr Val
20

<210> 219
<211> 63
<212> DNA
<213> Hepatitis B virus

<400> 219
gctacctggg tgggtgttaa tttggaagat ccagcgtcta gagacctagt agtcagttat 60
gtc 63

<210> 220
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
amino acid position 75 of Hepatitis B core

<400> 220
Thr Trp Val Gly Val Lys Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu
1 5 10 15

Val Val Ser Tyr Val
20

<210> 221
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc- K75 mutant

<400> 221
gctacctggg tgggtgttaa aaatttggaa gatccagcgt c 41

<210> 222
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
amino acid position 76 of Hepatitis B core

<400> 222
Thr Trp Val Gly Val Asn Lys Leu Glu Asp Pro Ala Ser Arg Asp Leu
1 5 10 15

Val Val Ser Tyr Val
20

<210> 223
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc-K76 mutant

<400> 223
ttaataaatt ggaagatcca gcgtcta 27

<210> 224
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
position 77 of Hepatitis B virus core

<400> 224
Thr Trp Val Gly Val Asn Leu Lys Glu Asp Pro Ala Ser Arg Asp Leu
1 5 10 15

Val Val Ser Tyr Val
20

<210> 225
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc-K77 mutant

<400> 225
ttaatttgaa agaagatcca gcgtcta 27

<210> 226
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
amino acid position 78 of Hepatitis B core

<400> 226
Thr Trp Val Gly Val Asn Leu Glu Lys Asp Pro Ala Ser Arg Asp Leu
1 5 10 15

Val Val Ser Tyr Val
20

<210> 227
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc-K78 mutant

<400> 227
ttaatttgga aaaagatcca gcgtctagag ac 32

<210> 228
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
amino acid position 79 fo Hepatitis B core.

<400> 228
Thr Trp Val Gly Val Asn Leu Glu Asp Lys Pro Ala Ser Arg Asp Leu
1 5 10 15

Val Val Ser Tyr Val
20

<210> 229
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc-K79 mutant

<400> 229
ttaatttgga agataaacca gcgtctagag acctag 36

<210> 230
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
amino acid position 79 of Hepatitis B core

<400> 230
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Lys Ala Ser Arg Asp Leu
1 5 10 15

Val Val Ser Tyr Val
20

<210> 231
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc-K80 mutant

<400> 231
ttaatttgga agatccaaaa gcgtctagag acctagtag 39

<210> 232
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
amino acid position 81 of Hepatitis B core

<400> 232
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Lys Ser Arg Asp Leu
1 5 10 15

Val Val Ser Tyr Val
20

<210> 233
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc-K81 mutant

<400> 233
ttaatttgga agatccagcg aaatctagag acctagtagt cag 43

<210> 234
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
amino acid position 82 of Hepatitis B core

<400> 234
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Lys Arg Asp Leu
1 5 10 15

Val Val Ser Tyr Val
20

<210> 235
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc-K82 mutant

<400> 235
ttaatttgga agatccagcg tctaaaagag acctagtagt cagtt 45

<210> 236
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
amino acid position 83 to Hepatitis B core

<400> 236
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Lys Asp Leu
1 5 10 15

Val Val Ser Tyr Val
20

<210> 237
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc-K83 mutant

<400> 237
ttaatttgga agatccagcg tctagaaaag acctagtagt cagttatgtc 50

<210> 238
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
amino acid position 83 of Hepatitis B core

<400> 238
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp Lys Leu
1 5 10 15

Val Val Ser Tyr Val
20

<210> 239
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc-K84 mutant

<400> 239
ttaatttgga agatccagcg tctagagaca aactagtagt cagttatgtc 50

<210> 240
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: K inserted at
amino acid position 85 of Hepatitis B core

<400> 240
Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala Ser Arg Asp Leu Lys
1 5 10 15

Val Val Ser Tyr Val
20

<210> 241
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Lysine codon
aaa inserted to make HBc-K85 mutant

<400> 241
ctcgagagac ctaaaagtag tcagttatgt c 31

<210> 242
<211> 36
<212> PRT
<213> Hepatitis B virus

<400> 242
Gly Ile Gln Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser
1 5 10 15

Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn
20 25 30

Glu Gln Glu Leu
35

<210> 243
<211> 102
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: human
cytochrome P450

<400> 243
aatttggatg tgggaagatc gtgagatcaa caattatacc agcctgatac attctttaat 60
tgaagagtcc cagaaccaac aggagaaaaa tgaacaagag ct 102

<210> 244
<211> 94
<212> DNA
<213> Hepatitis B virus

<400> 244
cttgttcatt tttctcctgt tggttctggg actcttcaat taaagaatgt atcaggctgg 60
tataattgtt gatctcacga tcttcccaca tcca 94

<210> 245
<211> 6
<212> PRT
<213> Hepatitis B virus

<400> 245
Met Asp Ile Asp Pro Tyr
1 5

<210> 246
<211> 217
<212> PRT
<213> Spermophilus variegatus

<400> 246
Met Tyr Leu Phe His Leu Cys Leu Val Phe Ala Cys Val Pro Cys Pro
1 5 10 15

Thr Val Gln Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Asp Met Asp
20 25 30

Ile Asp Pro Tyr Lys Glu Phe Gly Ser Ser Tyr Gln Leu Leu Asn Phe
35 40 45

Leu Pro Leu Asp Phe Phe Pro Asp Leu Asn Ala Leu Val Asp Thr Ala
50 55 60

Ala Ala Leu Tyr Glu Glu Glu Leu Thr Gly Arg Glu His Cys Ser Pro
65 70 75 80

His His Thr Ala Ile Arg Gln Ala Leu Val Cys Trp Glu Glu Leu Thr
85 90 95

Arg Leu Ile Thr Trp Met Ser Glu Asn Thr Thr Glu Glu Val Arg Arg
100 105 110

Ile Ile Val Asp His Val Asn Asn Thr Trp Gly Leu Lys Val Arg Gln
115 120 125

Thr Leu Trp Phe His Leu Ser Cys Leu Thr Phe Gly Gln His Thr Val
130 135 140

Gln Glu Phe Leu Val Ser Phe Gly Val Trp Ile Arg Thr Pro Ala Pro
145 150 155 160

Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro Glu His Thr
165 170 175

Val Ile Arg Arg Arg Gly Gly Ser Arg Ala Ala Arg Ser Pro Arg Arg
180 185 190

Arg Thr Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg
195 200 205

Arg Ser Gln Ser Pro Ala Ser Asn Cys
210 215

<210> 247
<211> 183
<212> PRT
<213> Hepatitis B virus

<400> 247
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala
65 70 75 80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
100 105 110

Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
130 135 140

Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr
145 150 155 160

Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser
165 170 175

Gln Ser Arg Glu Ser Gln Cys
180

<210> 248
<211> 185
<212> PRT
<213> Hepatitis B virus

<400> 248
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Asn Asn Leu Gln Asp Pro Ala
65 70 75 80

Ser Arg Asp Leu Val Val Asn Tyr Val Asn Thr Asn Met Gly Leu Lys
85 90 95

Ile Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
100 105 110

Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
115 120 125

EP 0 462 005 A2

```
Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
    130                 135                 140

Glu Thr Thr Val Val Arg Arg Arg Asp Arg Gly Arg Ser Pro Arg Arg
145                 150                 155                 160

Arg Thr Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg
                165                 170                 175

Arg Ser Gln Ser Arg Glu Ser Gln Cys
            180                 185


<210> 249
<211> 185
<212> PRT
<213> Hepatitis B virus

<400> 249
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
  1               5                  10                  15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
            20                  25                  30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
        35                  40                  45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
    50                  55                  60

Leu Met Thr Leu Ala Thr Trp Val Gly Asn Asn Leu Glu Asp Pro Ala
65                  70                  75                  80

Ser Arg Asp Leu Val Val Asn Tyr Val Asn Thr Asn Val Gly Leu Lys
                85                  90                  95

Ile Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
            100                 105                 110

Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
        115                 120                 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
    130                 135                 140

Glu Thr Thr Val Val Arg Arg Arg Asp Arg Gly Arg Ser Pro Arg Arg
145                 150                 155                 160

Arg Thr Pro Ser Pro Arg Arg Arg Pro Ser Gln Ser Pro Arg Arg Arg
                165                 170                 175

Arg Ser Gln Ser Arg Glu Ser Gln Cys
            180                 185


<210> 250
<211> 183
<212> PRT
<213> Hepatitis B virus
```

<400> 250
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15

Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30

Thr Ala Ala Ala Leu Tyr Arg Asp Ala Leu Glu Ser Pro Glu His Cys
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Asp
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Thr Asn Leu Glu Asp Pro Ala
65 70 75 80

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Val Gly Leu Lys
85 90 95

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
100 105 110

Glu Thr Val Leu Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
115 120 125

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
130 135 140

Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr
145 150 155 160

Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser
165 170 175

Gln Ser Arg Glu Ser Gln Cys
180

<210> 251
<211> 183
<212> PRT
<213> Marmota monax

<400> 251
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ser Ser Tyr Gln Leu Leu
1 5 10 15

Asn Phe Leu Pro Leu Asp Phe Phe Pro Asp Leu Asn Ala Leu Val Asp
20 25 30

Thr Ala Thr Ala Leu Tyr Glu Glu Glu Leu Thr Gly Arg Glu His Cys
35 40 45

Ser Pro His His Thr Ala Ile Arg Gln Ala Leu Val Cys Trp Asp Glu
50 55 60

Leu Thr Lys Leu Ile Ala Trp Met Ser Ser Asn Ile Thr Ser Glu Gln
65 70 75 80

Val Arg Thr Ile Ile Val Asn His Val Asn Asp Thr Trp Gly Leu Lys
85 90 95

```
Val Arg Gln Ser Leu Trp Phe His Leu Ser Cys Leu Thr Phe Gly Gln
            100                 105                 110

His Thr Val Gln Glu Phe Leu Val Ser Phe Gly Val Trp Ile Arg Thr
        115                 120                 125

Pro Ala Pro Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
    130                 135                 140

Glu His Thr Val Ile Arg Arg Arg Gly Gly Ala Arg Ala Ser Arg Ser
145                 150                 155                 160

Pro Arg Arg Arg Thr Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro
                165                 170                 175

Arg Arg Arg Arg Ser Gln Cys
            180
```

<210> 252
<211> 26
<212> PRT
<213> Bos taurus

<400> 252
```
Ser Thr Pro Pro Leu Pro Trp Pro Trp Ser Pro Ala Ala Leu Arg Leu
  1               5                  10                  15

Leu Gln Arg Pro Pro Glu Glu Pro Ala Ala'
             20                  25
```

<210> 253
<211> 17
<212> PRT
<213> Ebola virus

<400> 253
```
Ala Thr Gln Val Glu Gln His His Arg Arg Thr Asp Asn Asp Ser Thr
  1               5                  10                  15

Ala
```

<210> 254
<211> 17
<212> PRT
<213> Ebola virus

<400> 254
```
His Asn Thr Pro Val Tyr Lys Leu Asp Ile Ser Glu Ala Thr Gln Val
  1               5                  10                  15

Glu
```

<210> 255
<211> 17
<212> PRT
<213> Ebola virus

<400> 255
Gly Lys Leu Gly Leu Ile Thr Asn Thr Ile Ala Gly Val Ala Val Leu
1 5 10 15

Ile

<210> 256
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:flexible linker arm

<400> 256
Gly Gly Gly Gly Ser Gly Gly Gly Gly Thr
1 5 10

<210> 257
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: flexible linker arm

<400> 257
Gly Gly Gly Gly Ser Gly Gly Gly Gly
1 5

<210> 258
<211> 513
<212> DNA
<213> Plasmodium falciparum

<220>
<221> CDS
<222> (1)..(513)

<400> 258
atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30

```
acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt   144
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
         35                  40                  45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa   192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
     50                  55                  60

cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat gga att   240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
 65                  70                  75                  80

aac gct aat ccg aac gct aat ccg aac gct aat ccg aac gct aat ccg   288
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
                 85                  90                  95

gag ctc cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat   336
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
            100                 105                 110

atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc   384
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
        115                 120                 125

act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg   432
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
    130                 135                 140

tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta   480
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
145                 150                 155                 160

tca aca ctt ccg gag act act gtt gtt tag taa                      513
Ser Thr Leu Pro Glu Thr Thr Val Val
                165                 170
```

<210> 259
<211> 169
<212> PRT
<213> Plasmodium falciparum

<400> 259

```
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
  1               5                  10                  15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
             20                  25                  30
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
         35                  40                  45
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
     50                  55                  60
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
 65                  70                  75                  80
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
                 85                  90                  95
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
            100                 105                 110
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
        115                 120                 125
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
    130                 135                 140
```

```
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
145                 150                 155                 160
Ser Thr Leu Pro Glu Thr Thr Val Val
                165
```

<210> 260
<211> 513
<212> DNA
<213> Plasmodium falciparum

<220>
<221> CDS
<222> (1)..(513)

<400> 260

```
atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc   48
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
  1               5                  10                  15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat   96
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
             20                  25                  30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt   144
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
         35                  40                  45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa   192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
     50                  55                  60

cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gga att aac   240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Gly Ile Asn
 65                  70                  75                  80

gct aat ccg aac gct aat ccg aac gct aat ccg aac gct aat ccg gag   288
Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Glu
                 85                  90                  95

ctc gat cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat   336
Leu Asp Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
            100                 105                 110

atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc   384
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
        115                 120                 125

act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg   432
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
    130                 135                 140

tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta   480
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
145                 150                 155                 160

tca aca ctt ccg gag act act gtt gtt tag taa                      513
Ser Thr Leu Pro Glu Thr Thr Val Val
                165                 170
```

<210> 261
<211> 169
<212> PRT
<213> Plasmodium falciparum

<400> 261
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 40 45
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Gly Ile Asn
65 70 75 80
Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Glu
85 90 95
Leu Asp Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
100 105 110
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
115 120 125
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
130 135 140
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
145 150 155 160
Ser Thr Leu Pro Glu Thr Thr Val Val
165

<210> 262
<211> 519
<212> DNA
<213> Plasmodium falciparum

<220>
<221> CDS
<222> (1)..(519)

<400> 262
atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt 144
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 40 45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa 192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60

cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat cca gcg 240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala
65 70 75 80

```
tct aga gac cta gta gtc agt tat gtc aac act aat atg ggc cta aag   288
Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys
                 85                  90                  95

ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc act ttt gga aga   336
Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
            100                 105                 110

gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg tgg att cgc act   384
Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
        115                 120                 125

cct cca gct tat aga cca cca aat gcc cct atc cta tca aca ctt ccg   432
Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
    130                 135                 140

gag act act gtt gtt gga att gaa tat ctg aac aaa atc cag aac tct   480
Glu Thr Thr Val Val Gly Ile Glu Tyr Leu Asn Lys Ile Gln Asn Ser
145                 150                 155                 160

ctg tcc acc gaa tgg tct ccg tgc tcc gtt acc tag taa               519
Leu Ser Thr Glu Trp Ser Pro Cys Ser Val Thr
                165                 170
```

<210> 263
<211> 171
<212> PRT
<213> Plasmodium falciparum

<400> 263

```
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
  1               5                  10                  15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
             20                  25                  30
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
         35                  40                  45
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
     50                  55                  60
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Pro Ala
 65                  70                  75                  80
Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys
                 85                  90                  95
Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
            100                 105                 110
Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
        115                 120                 125
Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
    130                 135                 140
Glu Thr Thr Val Val Gly Ile Glu Tyr Leu Asn Lys Ile Gln Asn Ser
145                 150                 155                 160
Leu Ser Thr Glu Trp Ser Pro Cys Ser Val Thr
                165                 170
```

<210> 264
<211> 516
<212> DNA
<213> Plasmodium falciparum

<220>
<221> CDS
<222> (1)..(516)

<400> 264
atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt 144
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 40 45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa 192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60

cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat gga att 240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
65 70 75 80

aac gct aat ccg aac gct aat ccg aac gct aat ccg aac gct aat ccg 288
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
85 90 95

gag ctc cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat 336
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
100 105 110

atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc 384
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
115 120 125

act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg 432
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
130 135 140

tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta 480
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
145 150 155 160

tca aca ctt ccg gag act act gtt gtt tgc tag taa 516
Ser Thr Leu Pro Glu Thr Thr Val Val Cys
165 170

<210> 265
<211> 170
<212> PRT
<213> Plasmodium falciparum

<400> 265
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30

Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 40 45

Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60

Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
65 70 75 80

Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
85 90 95

Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
100 105 110

Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
115 120 125

Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
130 135 140

Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
145 150 155 160

Ser Thr Leu Pro Glu Thr Thr Val Val Cys
165 170

<210> 266
<211> 579
<212> DNA
<213> Plasmodium falciparum

<220>
<221> CDS
<222> (1)..(579)

<400> 266
atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt 144
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 40 45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa 192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60

cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat gga att 240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
65 70 75 80

aac gct aat ccg aac gct aat ccg aac gct aat ccg aac gct aat ccg 288
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
85 90 95

gag ctc cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat 336
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
100 105 110

```
atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc   384
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
        115                 120                 125

act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg   432
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
    130                 135                 140

tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta   480
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
145                 150                 155                 160

tca aca ctt ccg gag act act gtt gtt gga att gaa tat ctg aac aaa   528
Ser Thr Leu Pro Glu Thr Thr Val Val Gly Ile Glu Tyr Leu Asn Lys
                165                 170                 175

atc cag aac tct ctg tcc acc gaa tgg tct ccg tgc tcc gtt acc tag   576
Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro Cys Ser Val Thr
            180                 185                 190

taa                                                               579
```

<210> 267
<211> 191
<212> PRT
<213> Plasmodium falciparum

<400> 267

```
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
  1               5                  10                  15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
            20                  25                  30
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
        35                  40                  45
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
    50                  55                  60
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
65                  70                  75                  80
Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro
                85                  90                  95
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
            100                 105                 110
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
        115                 120                 125
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
    130                 135                 140
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
145                 150                 155                 160
Ser Thr Leu Pro Glu Thr Thr Val Val Gly Ile Glu Tyr Leu Asn Lys
                165                 170                 175
Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro Cys Ser Val Thr
            180                 185                 190
```

<210> 268
<211> 591
<212> DNA
<213> Plasmodium falciparum

<220>
<221> CDS
<222> (1)..(591)

<400> 268
atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt 144
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 40 45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa 192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60

cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat gga att 240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
65 70 75 80

aac gcg aat ccg aac gtg gat ccg aat gcc aac cct aac gcc aac cca 288
Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro
85 90 95

aat gcg aac cca gag ctc cca gcg tct aga gac cta gta gtc agt tat 336
Asn Ala Asn Pro Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr
100 105 110

gtc aac act aat atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac 384
Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His
115 120 125

att tct tgt ctc act ttt gga aga gaa aca gtt ata gag tat ttg gtg 432
Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val
130 135 140

tct ttc gga gtg tgg att cgc act cct cca gct tat aga cca cca aat 480
Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn
145 150 155 160

gcc cct atc cta tca aca ctt ccg gag act act gtt gtt gga att gaa 528
Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr Val Val Gly Ile Glu
165 170 175

tat ctg aac aaa atc cag aac tct ctg tcc acc gaa tgg tct ccg tgc 576
Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro Cys
180 185 190

tcc gtt acc tag taa 591
Ser Val Thr
195

<210> 269
<211> 195
<212> PRT
<213> Plasmodium falciparum

<400> 269
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 40 45
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
65 70 75 80
Asn Ala Asn Pro Asn Val Asp Pro Asn Ala Asn Pro Asn Ala Asn Pro
85 90 95
Asn Ala Asn Pro Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr
100 105 110
Val Asn Thr Asn Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His
115 120 125
Ile Ser Cys Leu Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val
130 135 140
Ser Phe Gly Val Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn
145 150 155 160
Ala Pro Ile Leu Ser Thr Leu Pro Glu Thr Thr Val Val Gly Ile Glu
165 170 175
Tyr Leu Asn Lys Ile Gln Asn Ser Leu Ser Thr Glu Trp Ser Pro Cys
180 185 190
Ser Val Thr
195

<210> 270
<211> 561
<212> DNA
<213> Human immunodeficiency virus type 1

<220>
<221> CDS
<222> (1)..(561)

<400> 270
atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc 48
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
1 5 10 15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat 96
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
20 25 30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt 144
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
35 40 45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa 192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
50 55 60

```
cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat gga att   240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
 65                  70                  75                  80

caa tgg atg gaa tgg gat cgt gag atc aac aat tat acc agc ctg ata   288
Gln Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile
                85                  90                  95

cat tct tta att gaa gag tcc cag aac caa cag gag aaa aat gaa caa   336
His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln
            100                 105                 110

gag ctc cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat   384
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
        115                 120                 125

atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc   432
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
    130                 135                 140

act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg   480
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
145                 150                 155                 160

tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta   528
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
                165                 170                 175

tca aca ctt ccg gag act act gtt gtt tag taa                       561
Ser Thr Leu Pro Glu Thr Thr Val Val
            180                 185
```

<210> 271
<211> 185
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 271

```
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
  1               5                  10                  15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
             20                  25                  30
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
         35                  40                  45
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
     50                  55                  60
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
 65                  70                  75                  80
Gln Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile
                85                  90                  95
His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln
            100                 105                 110
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
        115                 120                 125
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
    130                 135                 140
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
145                 150                 155                 160
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
                165                 170                 175
```

```
Ser Thr Leu Pro Glu Thr Thr Val Val
            180                 185



<210> 272
<211> 564
<212> DNA
<213> Human immunodeficiency virus type 1

<220>
<221> CDS
<222> (1)..(564)

<400> 272
atg gac atc gac cct tat aaa gaa ttt gga gct act gtg gag tta ctc   48
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
  1               5                  10                  15

tcg ttt ttg cct tct gac ttc ttt cct tca gta cga gat ctt cta gat   96
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
             20                  25                  30

acc gcc tca gct ctg tat cgg gaa gcc tta gag tct cct gag cat tgt   144
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
         35                  40                  45

tca cct cac cat act gca ctc agg caa gca att ctt tgc tgg ggg gaa   192
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
     50                  55                  60

cta atg act cta gct acc tgg gtg ggt gtt aat ttg gaa gat gga att   240
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
 65                  70                  75                  80

caa tgg atg gaa tgg gat cgt gag atc aac aat tat acc agc ctg ata   288
Gln Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile
                 85                  90                  95

cat tct tta att gaa gag tcc cag aac caa cag gag aaa aat gaa caa   336
His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln
            100                 105                 110

gag ctc cca gcg tct aga gac cta gta gtc agt tat gtc aac act aat   384
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
        115                 120                 125

atg ggc cta aag ttc agg caa ctc ttg tgg ttt cac att tct tgt ctc   432
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
    130                 135                 140

act ttt gga aga gaa aca gtt ata gag tat ttg gtg tct ttc gga gtg   480
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
145                 150                 155                 160

tgg att cgc act cct cca gct tat aga cca cca aat gcc cct atc cta   528
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
                165                 170                 175
```

```
tca aca ctt ccg gag act act gtt gtt tgc tag taa                    564
Ser Thr Leu Pro Glu Thr Thr Val Val Cys
            180                 185
```

<210> 273
<211> 186
<212> PRT
<213> Human immunodeficiency virus type 1

<400> 273

```
Met Asp Ile Asp Pro Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu
  1               5                  10                  15
Ser Phe Leu Pro Ser Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp
             20                  25                  30
Thr Ala Ser Ala Leu Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys
         35                  40                  45
Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu
     50                  55                  60
Leu Met Thr Leu Ala Thr Trp Val Gly Val Asn Leu Glu Asp Gly Ile
 65                  70                  75                  80
Gln Trp Met Glu Trp Asp Arg Glu Ile Asn Asn Tyr Thr Ser Leu Ile
                85                  90                  95
His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln
            100                 105                 110
Glu Leu Pro Ala Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn
        115                 120                 125
Met Gly Leu Lys Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu
    130                 135                 140
Thr Phe Gly Arg Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val
145                 150                 155                 160
Trp Ile Arg Thr Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu
                165                 170                 175
Ser Thr Leu Pro Glu Thr Thr Val Val Cys
            180                 185
```

<210> 274
<211> 651
<212> DNA
<213> Spermophilus variegatus

<400> 274

```
atgtatcttt ttcacctgtg ccttgttttt gcctgtgttc catgtcctac tgttcaagcc 60
tccaagctgt gccttggatg gctttgggac atggacatag atccctataa agaatttggt 120
tcttcttatc agttgttgaa ttttcttcct ttggactttt ttcctgatct caatgcattg 180
gtggacactg ctgctgctct ttatgaagaa gaattaacag gtagggagca ttgttctcct 240
catcatactg ctattagaca ggccttagtg tgttgggaag aattaactag attaattaca 300
tggatgagtg aaaatacaac agaagaagtt agaagaatta ttgttgatca tgtcaataat 360
acttggggac ttaaagtaag acagacttta tggtttcatt tatcatgtct tacttttgga 420
caacacacag ttcaagaatt tttggttagt tttggagtat ggattagaac tccagctcct 480
tatagaccac ctaatgcacc cattttatca actcttccgg aacatacagt cattaggaga 540
agaggaggtt caagagctgc taggtccccc cgaagacgca ctccctctcc tcgcaggaga 600
aggtctcaat caccgcgtcg cagacgctct caatctccag cttccaactg c          651
```

<210> 275
<211> 549
<212> DNA
<213> Hepatitis B virus

<400> 275
atggacatcg acccttataa agaatttgga gctactgtgg agttactctc gtttttgcct 60
tctgacttct ttccttcagt acgagatctt ctagataccg cctcagctct gtatcgggaa 120
gccttagagt ctcctgagca ttgttcacct caccatactg cactcaggca agcaattctt 180
tgctgggggg aactaatgac tctagctacc tgggtgggtg ttaatttgga agatccagcg 240
tctagagacc tagtagtcag ttatgtcaac actaatatgg gcctaaagtt caggcaactc 300
ttgtggtttc acatttcttg tctcactttt ggaagagaaa cagttataga gtatttggtg 360
tctttcggag tgtggattcg cactcctcca gcttatagac caccaaatgc ccctatccta 420
tcaacacttc cggagactac tgttgttaga cgacgaggca ggtcccctag aagaagaact 480
ccctcgcctc gcagacgaag gtctcaatcg ccgcgtcgca gaagatctca atctcgggaa 540
tctcaatgt 549

<210> 276
<211> 554
<212> DNA
<213> Hepatitis B virus

<400> 276
atggacattg acccttataa agaatttgga gctactgtgg agttactctc gtttttgcct 60
tctgacttct ttccttccgt acgagatctc ctagacaccg cctcagctct gtatcgagaa 120
gccttagagt ctcctgagca ttgctcacct caccatactg cactcaggca agccattctc 180
tgctgggggg aattgatgac tctagctacc tgggtgggta ataatttgca agatccagca 240
tccagagatc tagtagtcaa ttatgttaat actaacatgg gtttaaagat caggcaacta 300
ttgtggtttc atatatcttg ccttactttt ggaagagaga ctgtacttga atatttggtc 360
tctttcggag tgtggattcg cactcctcca gcctatagac caccaaatgc ccctatctta 420
tcaacacttc cggaaactac tgttgttaga cgacgggacc gaggcaggtc ccctagaaga 480
agaactccct cgcctcgcag acgcagatct caatcgccgc gtcgcagaag atctcaatct 540
cgggaatctc aatgt 555

<210> 277
<211> 555
<212> DNA
<213> Hepatitis B virus

<400> 277
atggacattg acccttataa agaatttgga gctactgtgg agttactctc gtttttgcct 60
tctgacttct ttccttccgt cagagatctc ctagacaccg cctcagctct gtatcgagaa 120
gccttagagt ctcctgagca ttgctcacct caccatactg cactcaggca agccattctc 180
tgctgggggg aattgatgac tctagctacc tgggtgggta ataatttgga agatccagca 240
tctagggatc ttgtagtaaa ttatgttaat actaacgtgg gtttaaagat caggcaacta 300
ttgtggtttc atatatcttg ccttactttt ggaagagaga ctgtacttga atatttggtc 360
tctttcggag tgtggattcg cactcctcca gcctatagac caccaaatgc ccctatctta 420
tcaacacttc cggaaactac tgttgttaga cgacgggacc gaggcaggtc ccctagaaga 480
agaactccct cgcctcgcag acgcagatct ccatcgccgc gtcgcagaag atctcaatct 540
cgggaatctc aatgt 555

<210> 278
<211> 549
<212> DNA
<213> Hepatitis B virus

<400> 278
atggacattg acccttataa agaatttgga gctactgtgg agttactctc gtttttgcct 60
tctgacttct ttccttccgt acgagatctt ctagataccg ccgcagctct gtatcgggat 120
gccttagagt ctcctgagca ttgttcacct caccatactg cactcaggca agcaattctt 180
tgctggggag acttaatgac tctagctacc tgggtgggta ctaatttaga agatccagca 240
tctagggacc tagtagtcag ttatgtcaac actaatgtgg gcctaaagtt cagacaatta 300

ttgtggtttc acatttcttg tctcactttt ggaagagaaa cggttctaga gtatttggtg 360
tcttttggag tgtggattcg cactcctcca gcttatagac caccaaatgc ccctatccta 420
tcaacgcttc cggagactac tgttgttaga cgacgaggca ggtcccctag aagaagaact 480
ccctcgcctc gcagacgaag atctcaatcg ccgcgtcgca gaagatctca atctcgggaa 540
tctcaatgt 549

<210> 279
<211> 549
<212> DNA
<213> Marmota monax

<400> 279
atggctttgg ggcatggaca tagatcctta taaagaattt ggttcatctt atcagttgtt 60
gaatttttctt cctttggact tctttcctga tcttaatgct ttggtggaca ctgctactgc 120
cttgtatgaa gaagaactaa caggtaggga acattgctct ccgcaccata cagctattag 180
acaagcttta gtatgctggg atgaattaac taaattgata gcttggatga gctctaacat 240
aacttctgaa caagtaagaa caatcattgt aaatcatgtc aatgatacct ggggacttaa 300
ggtgagacaa agtttatggt ttcatttgtc atgtctcact ttcggacaac atacagttca 360
agaattttta gtaagttttg gagtatggat caggactcca gctccatata gacctcctaa 420
tgcacccatt ctctcgactc ttccggaaca tacagtcatt aggagaagag gaggtgcaag 480
agcttctagg tcccccagaa gacgcactcc ctctcctcgc aggagaagat ctcaatcacc 540
gcgtcgcag 549

<210> 280
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: human
cytochrome P450

<400> 280
Gln Glu Lys Gln Leu Asp Glu Asn Ala Asn Val Gln Leu
1 5 10

<210> 281
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: modified
portion of Hepatitis B core

<400> 281
Cys Val Val Thr Thr Glu Pro
1 5

<210> 282
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:modified
portion of Hepatitis B core

<400> 282
gcaagcttac tattgaattc cgcaaacaac agtagtctcc gg 42

<210> 283
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: modified
portion of Hepatitis B core

<400> 283
Thr Thr Val Val Gly Ile Glu Tyr Leu Asn Lys Ile Gln Asn Ser Leu
1 5 10 15

Ser Thr Glu Trp Ser Pro Cys Ser Val Thr
20 25

<210> 284
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: modified
portion of Hepatitis B core

<400> 284
Thr Thr Val Val Cys Gly Ile Glu Tyr Leu Asn Lys Ile Gln Asn Ser
1 5 10 15

Leu Ser Thr Glu Trp Ser Pro Ala Ser Val Thr
20 25

<210> 285
<211> 51
<212> DNA
<213> plasmid pKK223

<400> 285
ttcacacagg aaacagaatt cccggggatc cgtcgacctg cagccaagct t 51

<210> 286
<211> 38
<212> DNA
<213> plasmid pKK223

<400> 286
ttcacataag gaggaaaaaa cattgggatc cgaagctt 38

<210> 287
<211> 20
<212> PRT
<213> Plasmodium yoelii

<400> 287
Glu Phe Val Lys Gln Ile Ser Ser Gln Leu Thr Glu Glu Trp Ser Gln
1 5 10 15

Cys Ser Val Thr
20

<210> 288
<211> 14
<212> PRT
<213> Escherichia coli

<400> 288
Cys Cys Glu Leu Cys Cys Tyr Pro Ala Cys Ala Gly Cys Asn
1 5 10

<210> 289
<211> 18
<212> PRT
<213> Escherichia coli

<400> 289
Asn Thr Phe Tyr Cys Cys Glu Leu Cys Cys Tyr Pro Ala Cys Ala Gly
1 5 10 15

Cys Asn

<210> 290
<211> 18
<212> PRT
<213> Escherichia coli

<400> 290
Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Tyr Pro Ala Cys Ala Gly
1 5 10 15

Cys Asn

<210> 291
<211> 10
<212> PRT
<213> Influenza virus

<400> 291
Leu Ile Asp Ala Leu Leu Gly Asp Pro Cys
1 5 10

<210> 292
<211> 9
<212> PRT
<213> Influenza virus

<400> 292
Thr Leu Ile Asp Ala Leu Leu Gly Cys
1 5

<210> 293
<211> 42
<212> PRT
<213> Homo sapiens

<400> 293
Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys
1 5 10 15

Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile
20 25 30

Gly Leu Met Val Gly Gly Val Val Ile Ala
35 40

<210> 294
<211> 11
<212> PRT
<213> Homo sapiens

<400> 294
Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile
1 5 10

<210> 295
<211> 33
<212> PRT
<213> Homo sapiens

<400> 295
Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys
1 5 10 15

Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile
20 25 30

Gly

<210> 296
<211> 60
<212> DNA
<213> Homo sapiens

<400> 296
aattgatgcg gaatttcgtc atgacagcgg ctatgaggtg caccatcaga aactggagct 60

<210> 297
<211> 52
<212> DNA
<213> Homo sapiens

<400> 297
ccagtttctg atggtgcacc tcatagccgc tgtcatgacg aaattccgca tc 52

<210> 298
<211> 42
<212> DNA
<213> Homo sapiens

<400> 298
aattgaagat gtcggttcta acaaggggggc aattatcgag ct 42

<210> 299
<211> 34
<212> DNA
<213> Homo sapiens

<400> 299
cgataattgc ccccttgtta gaaccgacat cttc 34

<210> 300
<211> 82
<212> DNA
<213> Homo sapiens

<400> 300
gcgggaattg atgcggaatt tcgtcatgac agcggctatg aggtgcacca tcagaaactg 60
gttttctttg ccgaagatgt cg 82

<210> 301
<211> 83
<212> DNA
<213> Homo sapiens

<400> 301
gcggagctcc gctatgacaa ccccacccac cattaagccg ataattgccc ccttgttaga 60
accgacatct tcggcaaaga aaa 83

<210> 302
<211> 53
<212> DNA
<213> Homo sapiens

<400> 302
gcggagctcg ataattgccc ccttgttaga accgacatct tcggcaaaga aaa 53

<210> 303
<211> 31
<212> DNA
<213> Homo sapiens

<400> 303
gcgggaattc tggatgcgga atttcgtcat g 31

<210> 304
<211> 17
<212> DNA
<213> Homo sapiens

<400> 304
gcggagctcc gctatga 17

<210> 305
<211> 31
<212> DNA
<213> Homo sapiens

<400> 305
gcgggaattc tggatgcgga atttcgtcat g 31

<210> 306
<211> 18
<212> DNA
<213> Homo sapiens

<400> 306
gcggagctcg ataattgc 18

<210> 307
<211> 24
<212> PRT
<213> Haemophilus influenzae

<400> 307
Met Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly
1 5 10 15

Cys Arg Cys Asn Asp Ser Ser Asp
20

<210> 308
<211> 23
<212> PRT
<213> Haemophilus influenzae

<400> 308
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Cys
1 5 10 15

Arg Cys Asn Asp Ser Ser Asp
20

<210> 309
<211> 23
<212> PRT
<213> Haemophilus influenzae

<400> 309
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Ala
1 5 10 15

Arg Ala Asn Asp Ser Ser Asp
20

<210> 310
<211> 35
<212> PRT
<213> Haemophilus influenzae

<400> 310
Met Gly Ile Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu
1 5 10 15

Trp Gly Cys Arg Cys Asn Asp Ser Ser Asp Glu Leu Leu Gly Trp Leu
20 25 30

Trp Gly Ile
35

<210> 311
<211> 35
<212> PRT
<213> Haemophilus influenzae

<400> 311
Met Gly Ile Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu
1 5 10 15

Trp Gly Cys Arg Cys Asn Asp Ser Ser Asp Glu Leu Leu Gly Trp Leu
20 25 30

Trp Gly Ile
35

<210> 312
<211> 23
<212> PRT
<213> Influenza A virus

<400> 312
Ser Leu Leu Thr Glu Val Glu Thr Pro Ile Arg Asn Glu Trp Gly Ala
1 5 10 15

Arg Ala Asn Asp Ser Ser Asp
20

<210> 313
<211> 19
<212> PRT
<213> Influenza A virus

<400> 313
Glu Gln Gln Ser Ala Val Asp Ala Asp Asp Ser His Phe Val Ser Ile
1 5 10 15

Glu Leu Glu